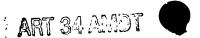
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## CLAIMS

- 1. A composite comprising: a substrate and a coating deposited on said substrate, the coating being deposited by flame or plasma spraying at atmospheric pressure, the thickness of the coating being at least 5 mm, more preferably greater than 8mm, the coating comprising metal oxides and the deposited coating comprising the addition of a noble metal to increase thermal conductivity of the coating.
- 2. A composite comprising: a substrate and a coating deposited on said substrate,
  the coating being deposited by flame or plasma spraying at atmospheric
  pressure, the thickness of the coating being at least 5 mm, more preferably
  greater than 8mm, the coating comprising a supercoductor precursor and at least
  10% of the coating is in a superconductive phase as deposited.
- 3. The composite according to claim 1, wherein the coating is a superconductive precursor and least 10% of the coating is in a superconductive phase as deposited.
  - 4. The composite according to claim 1, wherein the noble metal is silver.
  - 5. The composite according to claim 4, wherein up to 30% silver is included in the metal oxides.
- 6. The composite according to any of claims 1 to 5, wherein the composite is a target for a sputtering magnetron.
  - 7. The composite according to claim 6, wherein the target is cylindrical.
  - 8. The composite in accordance with any previous claim, wherein the coating has

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a thermal conductivity of between 1 and 5  $\mathrm{Wm}^{-1}\mathrm{K}^{-1}$ .

- 9. The composite in accordance with any previous claim, wherein the thermal conductivity of the composite or the target through the substrate and the coating is in the range 25 to 125 Wm<sup>-1</sup>K<sup>-1</sup>.
- 10. The composite in accordance with any previous claim, wherein the coating has an electrical resistivity of lower than  $15 \times 10^{-6}$  Ohm.m, more preferably lower than  $10 \times 10^{-6}$  and most preferably less than  $5 \times 10^{-6}$  Ohm.m.
- 11. A method of depositing by flame or plasma spraying at atmospheric pressure a layer onto a substrate, the layer having a thickness of at least 5 mm, more preferably greater than 8mm, the coating comprising metal oxides, the method including the step of depositing an additional nobel metal with the coating to increase thermal conductivity of the coating.
- 12. A method of depositing by flame or plasma spraying at atmospheric pressure a layer onto a substrate, the layer having a thickness of at least 5 mm, more preferably greater than 8 mm, the coating comprising a superconductive precursor and at least 10% of the layer being in a superconductive phase as deposited.
- 13. The method according to claim 11, wherein the noble metal is silver.
- 25 14. The method according to claim 13, wherein up to 30% silver is included in the material to be sprayed.
  - 15. The method according to any of claims 11 to 14, wherein the spraying step includes spraying a material through a spraying head, the material being in the

form of a powder, a slurry or a solution.

16. The method according to any of claims 11 to 15, further including the step of cooling the substrate.

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17. The method according to claim 16, wherein the cooling is with a cryogenic liquid.

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